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10/764,399 01/23/2004 Joseph Frank Loprete 20711-0036 9501

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EXAMINER

BANKHEAD, GENE LOUIS

ART UNIT

PAPER NUMBER

3744

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
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3 MONTHS

01/30/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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|------------------------------|-------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/764,399 | Applicant(s) LOPRETE, JOSEPH FRANK | |
| | Examiner Gene L. Bankhead | Art Unit 3744 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 10/17/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/23/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

RESPONSE TO ARGUMENTS

Applicant's argument filed 10/17/06, with respect to the rejection(s) of claim(s) 1-16 under 35 USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Overman et al. (US 4384462) and Leonard (US 4025326).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, and 10-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Overman et al. (US 4384462).

Regarding claims 1, 3 and 4 Overman et al. teach a refrigeration system with a plurality of compressors (A and B and C) having a plurality of predetermined operating configurations with each predetermined operating configuration resulting in a predetermined output capacity (Figure 3). They further teach a condenser 20 in fluid communication with the plurality of compressors (Figure 1), and at least one evaporator E1 in fluid communication with the condenser and the plurality of compressors. Further they teach a control system

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to control the plurality of compressors in response to a required output capacity of the refrigeration system (column 2 lines 48-52), with the control system configured to select a predetermined operating configuration from the predetermined configurations that most efficiently satisfies the required output capacity of the refrigeration system (column 3 lines 36-38). Overman et al. further teach each compressor of the plurality of compressors has a plurality of discrete output capacities and each predetermined operating configuration of the plurality of compressors includes an operational state of each compressor of the plurality of compressors and a discrete output capacity for each compressor (Figure 3).

With regard to claim 2, Overman et al. teach a plurality of evaporators for the refrigeration system equal to the total number of predetermined operating configurations for the system (Figure 1).

In regard to claims 5 and 10, Overman et al. teach each compressor comprises at least a first and second discrete capacity (Figure 3 and column 4 lines 39-43). Note from Figure 3 each compressor can operate at multiple capacity states. Overman et al. further teach the second discrete output capacity is greater than the first discrete output capacity for the first compressor and the second discrete output capacity for the first compressor is greater than the second discrete output capacity for the second compressor (Figure 3 and column 4 lines 39-43).

Regarding claim 6, Overman et al. teach all limitations of claim 5, and further teach the plurality of compressors includes three compressors (A and B and C).

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With regard to claims 7 and 8, Overman et al. teach all limitations of claim 6 and further teach the refrigeration system comprise eight predetermined operating configurations (column 4 lines 38-43) with each configuration configured to provide eight discrete steps of output capacity (Figure 3).

With regard to claims 11 and 12, Overman et al. teach a refrigeration system capable of performing the methods of claims 11 and 12, see the rejection of claims 1 and 2 as claims cite similar subject matter.

In regard to claims 13 and 14, Overman et al. teach a refrigeration system capable of performing the method of claim 12 as previously stated and further teach the system includes storing the plurality of configurations of compressors in a table (see Figure 3), and further teach the method includes selecting a configuration from the table (column 3 lines 19-25).

Regarding claims 15 and 16, Overman et al. teach all limitations of claim 12 as previously stated, and further teach the system includes an evaporator for each of the plurality of operating configurations (Figure 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Overman et al. in view of Leonard (US 4025326).

Regarding claim 9 Overman et al. teach all limitations of claim 6 as previously stated. Overman et al. fail to teach the first and second compressors of the refrigeration system are reciprocating compressors. Leonard teaches a refrigeration system which uses a reciprocating compressor in its operation. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Overman et al. with the reciprocating compressor of Leonard to advantageously enable the capacity of the compressor to be controlled to meet heating demands over a wide operating range (column 4 lines 8-16) in view of the teachings of Leonard (US 4025326).


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gene L. Bankhead whose telephone number is (571)-272-8963. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571)-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


CHERYL TYLER
SUPERVISORY PATENT EXAMINER

Examiner
Art Unit 3744
GB